

AMENDMENT

In the Claims:

Please amend claims 42 and 50 as follows:

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42. (Three times amended) [A] An isolated DNA molecule comprising a coding sequence encoding a polypeptide[for binding preferentially to a c-erbB-2 or a c-erbB-2-related tumor antigen], the polypeptide comprising:

an amino acid sequence comprising [at least one group] an ordered arrangement of three complementarity determining regions (CDRs) interposed between framework regions (FRs), wherein [(i) the polypeptide is immunologically reactive with said c-erbB-2 or c-erbB-2-related tumor antigen, and (ii) each group of three CDRs is selected from the group consisting of] the sequence of amino acids of said ordered arrangement of three CDRs has at least 70% sequence identity to the sequence of amino acids of an ordered arrangement of three CDRs selected from the group consisting of amino acid residue numbers 31-35, 50-66, 99-104 of SEQ ID NO:6; amino acid residue numbers 157-167, 183-189, 222-230 of SEQ ID NO:6; amino acid residue numbers 31-37, 52-68, 101-110 of SEQ ID NO:2; and amino acid residue numbers 159-169, 185-191, 224-233 of SEQ ID NO:2.

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50. (Amended) The DNA molecule of claim 42, wherein said FR sequences are [derived from a] human immunoglobulin framework region sequences.

Please add the following new claims:

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57. (New) The DNA molecule of claim 42, wherein the amino acid sequence has the general formula FR1-CDR1-FR2-CDR2-FR3-CDR3-FR4, wherein FR1, FR2,

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FR3 and FR4 are framework regions and CDR1 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 31-35 of SEQ ID NO:6, CDR 2 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 50-66 of SEQ ID NO:6 and CDR 3 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 99-104 of SEQ ID NO:6; or CDR1 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 157-167 of SEQ ID NO:6, CDR2 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 183-189 of SEQ ID NO:6 and CDR3 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 222-230 of SEQ ID NO:6.

58. (New) The DNA molecule of claim 57, wherein CDR1 is the sequence of amino acids found at amino acid positions 31-35 of SEQ ID NO:6, CDR 2 is the sequence of amino acids found at amino acid positions 50-66 of SEQ ID NO:6 and CDR 3 is the sequence of amino acids found at amino acid positions 99-104 of SEQ ID NO:6; or CDR1 is the sequence of amino acids found at amino acid positions 157-167 of SEQ ID NO:6, CDR2 is the sequence of amino acids found at amino acid positions 183-189 of SEQ ID NO:6 and CDR3 is the sequence of amino acids found at amino acid positions 222-230 of SEQ ID NO:6,

and further wherein the polypeptide is capable of binding c-erbB-2.

59. (New) The DNA molecule of claim 42, wherein the coding sequence encodes a first polypeptide comprising a first amino acid sequence of the general formula FR1-CDR1-FR2-CDR2-FR3-CDR3-FR4 and a second polypeptide comprising a second amino acid sequence of the general formula FR1'-CDR1'-FR2'-CDR2'-FR3'-CDR3'-FR4',

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wherein FR1, FR2, FR3, FR4, FR1', FR2', FR3' and FR4' are framework regions and each of CDR1, CDR2, CDR3, CDR1', CDR2' and CDR3' is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 31-35 of SEQ ID NO:6, the sequence of amino acids found at amino acid positions 50-66 of SEQ ID NO:6, the sequence of amino acids found at amino acid positions 99-104 of SEQ ID NO:6, the sequence of amino acids found at amino acid positions 157-167 of SEQ ID NO:6, the sequence of amino acids found at amino acid positions 183-189 of SEQ ID NO:6 and the sequence of amino acids found at amino acid positions 222-230 of SEQ ID NO:6, respectively.

60. (New) The DNA molecule of claim 59, wherein said first and second polypeptides together are capable of forming a binding site for c-erbB-2.

61. (New) The DNA molecule of claim 60, wherein each of CDR1, CDR2, CDR3, CDR1', CDR2' and CDR3' is the sequence of amino acids found at amino acid positions 31-35 of SEQ ID NO:6, the sequence of amino acids found at amino acid positions 50-66 of SEQ ID NO:6, the sequence of amino acids found at amino acid positions 99-104 of SEQ ID NO:6, the sequence of amino acids found at amino acid positions 157-167 of SEQ ID NO:6, the sequence of amino acids found at amino acid positions 183-189 of SEQ ID NO:6 and the sequence of amino acids found at amino acid positions 222-230 of SEQ ID NO:6, respectively,

and further wherein said first and second polypeptides together are capable of forming an antibody immunologically reactive with c-erbB-2.

62. (New) The DNA molecule of claim 61, wherein said first and second polypeptides together are capable of forming a humanized antibody.

63. (New) The DNA molecule of claim 62, wherein said FR sequences are human immunoglobulin framework region sequences of a human myeloma antibody.

89
64. (New) The DNA molecule of claim 62, wherein the amino acid sequence has the general formula FR1-CDR1-FR2-CDR2-FR3-CDR3-FR4, wherein FR1, FR2, FR3 and FR4 are framework regions and CDR1 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 31-37 of SEQ ID NO:2, CDR2 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 52-68 of SEQ ID NO:2 and CDR3 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 101-110 of SEQ ID NO:2; or CDR1 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 159-169 of SEQ ID NO:2, CDR2 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 185-191 of SEQ ID NO:2 and CDR3 is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 224-233 of SEQ ID NO:2.

65. (New) The DNA molecule of claim 64, wherein CDR1 is the sequence of amino acids found at amino acid positions 31-37 of SEQ ID NO:2, CDR2 is the sequence of amino acids found at amino acid positions 52-68 of SEQ ID NO:2 and CDR3 is the sequence of amino acids found at amino acid positions 101-110 of SEQ ID NO:2; or CDR1 is the sequence of amino acids found at amino acid positions 159-169 of SEQ ID NO:2, CDR2 is the sequence of amino acids found at amino acid positions 185-191 of SEQ ID NO:2 and CDR3 is the sequence of amino acids found at amino acid positions 224-233 of SEQ ID NO:2,

and further wherein the polypeptide is capable of binding c-erbB-2.

87

66. (New) The DNA molecule of claim 42, wherein the coding sequence encodes a first polypeptide comprising a first amino acid sequence of the general formula FR1-CDR1-FR2-CDR2-FR3-CDR3-FR4 and a second polypeptide comprising a second amino acid sequence of the general formula FR1'-CDR1'-FR2'-CDR2'-FR3'-CDR3'-FR4', wherein FR1, FR2, FR3, FR4, FR1', FR2', FR3' and FR4' are framework regions and each of CDR1, CDR2, CDR3, CDR1', CDR2' and CDR3' is a sequence of amino acids with at least 90% sequence identity to the sequence of amino acids found at amino acid positions 31-37 of SEQ ID NO:2, the sequence of amino acids found at amino acid positions 52-68 of SEQ ID NO:2, the sequence of amino acids found at amino acid positions 101-110 of SEQ ID NO:2, the sequence of amino acids found at amino acid positions 159-169 of SEQ ID NO:2, the sequence of amino acids found at amino acid positions 185-191 of SEQ ID NO:2 and the sequence of amino acids found at amino acid positions 224-233 of SEQ ID NO:2, respectively.

67. (New) The DNA molecule of claim 66, wherein said first and second polypeptides together are capable of binding c-erbB-2.

68. (New) The DNA molecule of claim 67, wherein each of CDR1, CDR2, CDR3, CDR1', CDR2' and CDR3' is the sequence of amino acids found at amino acid positions 31-37 of SEQ ID NO:2, the sequence of amino acids found at amino acid positions 52-68 of SEQ ID NO:2, the sequence of amino acids found at amino acid positions 101-110 of SEQ ID NO:2, the sequence of amino acids found at amino acid positions 159-169 of SEQ ID NO:2, the sequence of amino acids found at amino acid positions 185-191 of SEQ ID NO:2 and the sequence of amino acids found at amino acid positions 224-233 of SEQ ID NO:2, respectively,

and further wherein said first and second polypeptides together are capable of forming an antibody immunologically reactive with c-erbB-2.

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69. (New) The DNA molecule of claim 68, wherein said first and second polypeptides together are capable of forming a humanized antibody.

70. (New) The DNA molecule of claim 69, wherein said FR sequences are human immunoglobulin framework region sequences of a human myeloma antibody.

71. (New) A recombinant vector comprising the DNA molecule of claim 59 operably linked to control elements, whereby the coding sequence encoding said polypeptide can be transcribed and translated in a host cell.

72. (New) A recombinant vector comprising the DNA molecule of claim 61 operably linked to control elements, whereby the coding sequence encoding said polypeptide can be transcribed and translated in a host cell.

73. (New) A recombinant vector comprising the DNA molecule of claim 62 operably linked to control elements, whereby the coding sequence encoding said polypeptide can be transcribed and translated in a host cell.

74. (New) A recombinant vector comprising the DNA molecule of claim 66 operably linked to control elements, whereby the coding sequence encoding said polypeptide can be transcribed and translated in a host cell.

75. (New) A recombinant vector comprising the DNA molecule of claim 68 operably linked to control elements, whereby the coding sequence encoding said polypeptide can be transcribed and translated in a host cell.

76. (New) A recombinant vector comprising the DNA molecule of claim 69 operably linked to control elements, whereby the coding sequence encoding said polypeptide can be transcribed and translated in a host cell.

77. (New) A host cell comprising the recombinant vector of claim 71.

78. (New) A host cell comprising the recombinant vector of claim 72.

79. (New) A host cell comprising the recombinant vector of claim 73.

80. (New) A host cell comprising the recombinant vector of claim 74.

81. (New) A host cell comprising the recombinant vector of claim 75.

82. (New) A host cell comprising the recombinant vector of claim 76.

83. (New) A method of producing a recombinant polypeptide comprising:
(a) providing a population of host cells according to claim 77; and
(b) culturing said population of cells under conditions whereby the polypeptide encoded by the coding sequence present in said recombinant vector is expressed.

84. (New) A method of producing a recombinant polypeptide comprising:
(a) providing a population of host cells according to claim 78; and
(b) culturing said population of cells under conditions whereby the polypeptide encoded by the coding sequence present in said recombinant vector is expressed.

85. (New) A method of producing a recombinant polypeptide comprising: